

METHOD FOR IDENTIFYING ALZHEIMER'S DISEASE THERAPEUTICS USING TRANSGENIC ANIMAL MODELS

Abstract of the Invention

The construction of transgenic animal models of human Alzheimer's disease, and methods of using the models to screen potential Alzheimer's disease therapeutics, are described. The models are characterized by pathologies similar to pathologies observed in Alzheimer's disease, based on expression of all three forms of the β -amyloid precursor protein (APP), APP695, APP751, and APP770, as well as various point mutations based on naturally occurring mutations, such as the London and Indiana familial Alzheimer's disease (FAD) mutations at amino acid 717, predicted mutations in the APP gene, and truncated forms of APP that contain the A β region. Animal cells can be isolated from the transgenic animals or prepared using the same constructs with standard techniques such as lipofection or electroporation. The transgenic animals, or animal cells, are used to screen for compounds altering the pathological course of Alzheimer's disease as measured by their effect on the amount of APP, β -amyloid peptide, and numerous other Alzheimer's disease markers in the animals, the neuropathology of the animals, as well as by behavioral alterations in the animals.